

CLAIMS

1. A method of manufacturing an aluminum heat exchanger in which a Zn thermally sprayed layer is formed on a surface of an aluminum flat tube and then the Zn thermally sprayed tube is combined with an aluminum corrugated fin and brazed to the fin,

wherein the Zn thermally sprayed tube is subjected to a Zn diffusion treatment by heating the tube before the brazing to diffuse the Zn in the tube surface, and thereafter the brazing is performed.

2. The method of manufacturing an aluminum heat exchanger as recited in claim 1, wherein an adhered amount of the Zn on the surface of the flat tube is controlled so as to fall within a range of 6 to 12 g/m².

3. The method of manufacturing an aluminum heat exchanger as recited in claim 1, wherein an area rate of an area covered with the Zn on the surface of the flat tube is set to 50% or more of the surface of the Zn thermally sprayed tube.

4. The method of manufacturing an aluminum heat exchanger as recited in claim 1, wherein the Zn diffusion treatment is performed by a heat-treatment of 470 to 620 °C x 5 minutes to 10 hours in an inert gas atmosphere.

5. The method of manufacturing an aluminum heat exchanger as recited in claim 4, wherein the inert gas atmosphere is a nitrogen gas

atmosphere.

6. An aluminum heat exchanger in which a Zn thermally sprayed tube in which a Zn thermally sprayed layer is formed on a surface of an aluminum flat tube is combined with an aluminum corrugated fin and brazed to the fin,

wherein a surface Zn concentration of a flat tube surface portion located at an intermediate position between adjacent tube-fin connected portions is 0.5 to 2.5 mass%, and

wherein a maximum Zn concentration in an eutectic portion of a fillet of the tube-fin connected portion is 1.0 to 3.5 mass%.

7. A tube for use in aluminum num heat exchangers,
wherein a Zn diffusion treatment by heating a Zn thermally sprayed tube is executed after forming the Zn thermally sprayed layer on a surface of an aluminum flat tube.

8. The tube for use in aluminum num heat exchangers as recited in claim 7, wherein an adhered amount of Zn on a surface of the Zn thermally sprayed tube is set to 6 to 12 g/m².

9. The tube for use in aluminum num heat exchangers as recited in claim 8, wherein an area ratio of an area covered with the Zn on the surface of the Zn Thermally Sprayed Tube is set to 50% or more of the surface of the Zn thermally sprayed tube.